CLAIMS

What is claimed is:

1.   A Voice-over-Internet Protocol (VoIP) system, comprising:

a network configured to allow voice data to be transmitted and received over the network wherein the network includes a routing server configured to automatically determine and identify a termination PSTN gateway from a plurality of termination PSTN gateways;

at least one VoIP client operatively coupled to the network to transmit and receive voice data over the network; wherein the at least one VoIP client connects to the termination PSTN gateway in order to transmit and receive voice data; and

one or more of a gateway monitor configured to provide to the routing server the status information on the plurality of termination PSTN gateways, a routing cost policy server configured to provide to the routing server cost information or a routing plan database from which the routing server may extract information on the at least one VoIP client.

2.   The VoIP system according to claim 1, further including at least one network connection coupled to the routing server and the one or more of the gateway monitor, the routing cost policy server, or the routing plan database for sharing information therebetween and the information is used to determine which termination PSTN gateway of the plurality of termination PSTN gateways the at least one VoIP client connects to in order to transmit and receive voice data.

3.   The VoIP system according to claim 1, wherein the plurality of termination PSTN gateways are configured in a plurality of termination PSTN gateway groups which are designated based on the Quality of Service and the designation is used by the routing server to determine and identify the termination PSTN gateway.

4.   The VoIP system according to claim 1, wherein the at least one VoIP client is categorized in a caller group and the caller group is used by the routing server to determine and identify the termination PSTN gateway.

5.   The VoIP system according to claim 4, wherein the caller group is categorized by one or more of a location, a priority, a business entity association, or a membership of the client.

6.   The VoIP system according to claim 4, further including a routing plan associated with the caller group and the routing plan is used by the routing server to determine and identify the termination PSTN gateway.

7.   The VoIP system according to claim 4, further including a default routing plan associated with the caller group and the default routing plan is used by the routing server to determine and identify the termination PSTN gateway.

8.   The VoIP system according to claim 1, wherein the routing server identifies the termination PSTN gateway based on workload data.

9.   The VoIP system according to claim 1, wherein the gateway monitor continuously monitors the plurality of termination PSTN gateways for status information.

10.   The VoIP system according to claim 1, wherein the gateway monitor polls the plurality of termination PSTN gateways for status information.

11.   The VoIP system according to claim 1, wherein the status information includes one or more of a health status, a carrier termination cost, a Quality of Service of a termination PSTN gateway, a termination PSTN gateway malfunction indication, a network supporting the termination PSTN gateway status, or the availability of resources of the termination PSTN gateway.

12.   The VoIP system according to claim 1, wherein the routing plan database is coupled to the routing server and shares information therebetween, the information is used by the routing server to determine which termination PSTN gateway of the plurality of termination PSTN gateways the at least one VoIP client connects to in order to transmit and receive voice data.

13.   The VoIP system according to claim 1, wherein the routing plan database is coupled to the routing cost policy server in order to share information therebetween and the routing cost policy server is coupled to the routing server to share information therebetween and the information is used to determine which termination PSTN gateway of the plurality of termination PSTN gateways the at least one VoIP client connects to in order to transmit and receive voice data.

14.   A method for connecting at least one Voice-over-Internet Protocol (VoIP) client to a VoIP system, wherein the VoIP system comprises a network including a routing server, and one or more of a gateway monitor, a routing cost policy server or a routing plan database; comprising the steps of:

(a)   automatically determining and identifying a termination PSTN gateway from a plurality of termination PSTN gateways based on information provided by the one or more of the gateway monitor, the routing cost policy server or the routing database; and

(b)   connecting of the at least one VoIP client to the termination PSTN gateway in order to transmit and receive voice data.

15. The method of claim 15, further including the step of:

(c)   sharing information between the plurality of termination PSTN gateways and the routing server wherein the information is used by the routing server to determine which termination PSTN gateway of the plurality of termination PSTN gateways the at least one VoIP client connects to in order to transmit and receive voice data.

16. The method of claim 14, further including the steps of:

(d)   configuring the plurality of termination PSTN gateways into a plurality of termination PSTN gateway groups;

(e)   designating the plurality of termination PSTN gateway groups based on the Quality of Service; and

(f)   using the designation to determine and identify the termination PSTN gateway.

17. The method of claim 14, further including the step of identifying the termination PSTN gateway based on workload data received by the routing server.

18. The method of claim 14, further including the step of categorizing the at least one VoIP client into a caller group wherein the caller group is used by the routing server to determine and identify the termination PSTN gateway.

19. The method of claim 18, further including the step of:

(g)   identifying a routing plan associated with the caller group and the routing plan is used by the routing server to determine and identify the termination PSTN gateway.

20. The method of claim 18, further including the step of identifying a default routing plan associated with the caller group and the default routing plan is used by the routing server to determine and identify the termination PSTN gateway.